INDEX TO AUTHORS

ALLEN, GORDON. See WALD and ALLEN, 41

ANDERSON, RUBERT S. See PICKELS and ANDERSON, 83

ANSON, M. L. See HERRIOTT, ANSON, and NORTHROP, 185

ARMSTRONG, FLORENCE H., and FISHER, KENNETH C. The oxygen consumption associated with growth in *Escherichia coli* and the effect of sulfathiazole and of *n*-propyl carbamate on it, 279

—. See FISHER and ARMSTRONG, 263

BARRON, E. S. GUZMAN. See GOLDINGER and BARRON, 73

BERNHEIMER, ALAN W. Comparative kinetics of hemolysis induced by bacterial and other hemolysins, 337

BLAIR, H. A. See GRAHAM and BLAIR, 493

BROWN, B. B. See KRUEGER, SCRIBNER, and BROWN, 25

CHADWICK, L. E., and DETHIER, V. G. The relationship between chemical structure and the response of blowflies to tarsal stimulation by aliphatic acids, 255

—. See DETHIER and CHADWICK, 247

CHANG, M. C. The effects of serum on spermatozoa, 321

CHAPANIS, A. The dark adaptation of the color anomalous measured with lights of different hues, 423

CHRISTENSEN, L. R. The activation of plasminogen by chloroform, 149

—. Protamine purification of streptokinase and effect of pH and temperature on reversible inactivation, 465

CRAMER, MARIAN. See MYERS, 217

DETHIER, V. G., and CHADWICK, L. E. Rejection thresholds of the blowfly for a series of aliphatic alcohols, 247

—. See CHADWICK and DETHIER, 255

ECKER, PAUL GERARD. The ultracentrifuge study of plastein, 399

EPPRIGHT, MARGARET A., and WILLIAMS, ROGER J. Effects of certain limiting conditions on the synthesis of B vitamins by yeast, 61

FISHER, KENNETH C., and ARMSTRONG, FLORENCE H. The effects of sulfathiazole and of propyl carbamate on the rate of oxygen consumption and growth in *Escherichia coli*, 263

—. See ARMSTRONG and FISHER, 279

FORD, JOAN MUNRO. Saltant production by wave lengths of visible and long ultraviolet monochromatic irradiation, and a comparison with saltants produced by short wave lengths of monochromatic ultraviolet irradiation in the fungus *Chaetomium globosum*, 211

GILDER, H. See GRANICK and GILDER, 1

GOLDINGER, JAMES M., and BARRON, E. S. GUZMAN. The pyruvate metabolism of sea urchin eggs during the process of cell division, 73

GRAHAM, HELEN TREDWAY, and BLAIR, H. A. The effect of environmental potassium and calcium concentrations on the recovery of the action potential and related functions of nerve, 493

GRANICK, S., and GILDER, H. The porphyrin requirements of *Haemophilus influenzae* and some functions of the vinyl and propionic acid side chains of heme, 1

HERRIOTT, ROGER M. Solubility of mustard gas [bis(β-chloroethyl) sulfide] in water, molar sodium chloride, and in solutions of detergents, 449

—. The sulfonium salt of mustard gas: bis-β-[bis(β - hydroxyethyl) sulfonium] ethylsulfide dichloride (H·2TDG), 457

—, ANSON, M. L., and NORTHROP, JOHN H. Reaction of enzymes and proteins with mustard gas (bis(β-chloroethyl) sulfide), 185

HÖBER, RUDOLF. Studies on the physiological effects of non-polar–polar organic electrolytes. I. The influence upon the resting potential of frog muscle, 389

JOHNSON, ELEANOR M. See VON BRAND, JOHNSON, and REES, 163

JOHNSTON, JAMES. See MYERS, 217

KRUEGER, A. P., SCRIBNER, E. J., and BROWN, B. B. Further observations on the mechanism of phage action, 25

KUNITZ, M. Crystalline soy bean trypsin inhibitor. II. General properties, 291

—. Isolation of a crystalline protein compound of trypsin and of soy bean trypsin inhibitor, 311

MIRSKY, A. E., and POLLISTER, A. W. Chromosin, a desoxyribose nucleoprotein complex of the cell nucleus, 117

—. See POLLISTER and MIRSKY, 101

MOMMAERTS, W. F. H. M., and SERAIDARIAN, KRIKOR. A study of the adenosine triphosphatase activity of myosin and actomyosin, 401

MYERS, JACK. Oxidative assimilation in relation to photosynthesis in *Chlorella*, 217

MYSELS, KAROL J. Studies of aluminum soaps. IX. Electron microscope view of lyophilized aluminum laurate, 159

NORTHROP, JOHN H. Action of papain and ficin on tadpoles and *Arbacia* eggs, 375

—. Crystallization of pepsin from alcohol, 177

—. Detection of mustard gas (H), lewisite (L), ethyldichlorarsine (ED), and phenyldichlorarsine (PD) with trained dogs orrats, 475

—. Plastein from pepsin and trypsin, 377

—. See HERRIOTT, ANSON, and NORTHROP, 185

OSTERHOUT, W. J. V. Nature of the action current in *Nitella*. VI. Simple and complex action patterns, 47

—. Some aspects of secretion. I. Secretion of water, 439

—. Some properties of protoplasmic gels. II. Contraction of chloroplasts in currents of water entering the cell and expansion in outgoing currents, 229

PICKELS, EDWARD G., and ANDERSON, RUBERT S. Molecular association of hemocyanin produced by x-rays as observed in the ultracentrifuge, 83

POLLISTER, A. W., and MIRSKY, A. E. The nucleoprotamine of trout sperm, 101

—. See MIRSKY and POLLISTER, 117

PONDER, ERIC. Hemolytic systems containing anionic detergents, 15

—. K-Na exchange accompanying the prolytic loss of K from human red cells, 379

PONDER, ERIC. Prolytic ion exchanges produced in human red cells by methanol, ethanol, guaiacol, and resorcinol, 479

—. The prolytic loss of K from human red cells, 235

REES, CHARLES W. See VON BRAND, JOHNSON, and REES, 163

REINER, JOHN M. The kinetics of multiple enzyme inhibition, 367

—. Metabolic intermediates in adaptive fermentation of galactose by yeast, 355

SCRIBNER, E. J. See KRUEGER, SCRIBNER, and BROWN, 25

SERAIDARIAN, KRIKOR. See MOMMAERTS and SERAIDARIAN, 401

VON BRAND, THEODOR, JOHNSON, ELEANOR M., and REES, CHARLES W. Observations on the respiration of *Trypanosoma cruzi* in culture, 163

WALD, GEORGE, and ALLEN, GORDON. Fractionation of the eye pigments of *Drosophila melanogaster*, 41

WILLIAMS, ROGER J. See EPPRIGHT and WILLIAMS, 61

INDEX TO SUBJECTS

ACID, vinyl and propionic, side chains of heme, and porphyrin requirements of *Haemophilus influenzae*, 1
Acids, aliphatic, tarsal stimulation of blowflies, relationship between chemical structure and response to, 255
Actomyosin and myosin, adenosine triphosphatase activity, 401
Adenosine triphosphatase activity of myosin and actomyosin, 401
Alcohol, crystallization of pepsin from, 177
Alcohols, aliphatic, series, rejection thresholds of blowfly for, 247
Aliphatic acids, tarsal stimulation of blowflies, relationship between chemical structure and response to, 255
— alcohols, series, rejection thresholds of blowfly for, 247
Aluminum laurate, lyophilized, electron microscope view, 159
— soaps, electron microscope view of lyophilized aluminum laurate, 159
Arbacia eggs and tadpoles, action of papain and ficin on, 375

BACTERIAL and other hemolysins, comparative kinetics of hemolysis induced by, 337
Bacteriophage action, mechanism, 25
Blood corpuscles, red. *See* Erythrocytes.
Blowflies, response to tarsal stimulation by aliphatic acids, and chemical structure, relationship between, 255
Blowfly, rejection thresholds for series of aliphatic alcohols, 247

CALCIUM and potassium concentrations, environmental, effect on recovery of action potential and related functions of nerve, 493
Carbamate, *n*-propyl, and sulfathiazole, effect on oxygen consumption associated with growth in *Escherichia coli*, 279
Cell, contraction of chloroplasts in currents of water entering, and expansion in outgoing currents, 229
— division, sea urchin eggs, pyruvate metabolism during, 73
— nucleus, desoxyribose nucleoprotein complex of, 117
Cells, blood, red. *See* Erythrocytes.
Chaetomium globosum, saltants produced by short wave lengths of monochromatic ultraviolet irradiation compared with saltant production by wave lengths of visible and long ultraviolet monochromatic irradiation, 211
Chemical structure and response of blowflies to tarsal stimulation by aliphatic acids, relationship between, 255
Chlorella, photosynthesis, oxidative assimilation in relation to, 217
Chloroethyl sulfide, bis-β-, reaction of enzymes and proteins with, 185
— sulfide, bis-β-, solubility in water, in molar sodium chloride, and in solutions of detergents, 449
Chloroform, activation of plasminogen by, 149
Chloroplasts, contraction in currents of water entering cell and expansion in outgoing currents, 229
Chromosin, desoxyribose nucleoprotein complex of cell nucleus, 117

Color anomalous, dark adaptation measured with lights of different hues, 423
Corpuscles, blood, red. *See* Erythrocytes.
Crystallization of pepsin from alcohol, 177
Cultivation, *Trypanosoma cruzi* respiration in, 163

DARK adaptation of color anomalous measured with lights of different hues, 423
Desoxyribose nucleoprotein complex of cell nucleus, 117
Detergents, anionic, hemolytic systems containing, 15
—, solutions, water, and molar sodium chloride, solubility of mustard gas in, 449
Drosophila melanogaster, eye pigments, fractionation, 41

EGGS, *Arbacia*, and tadpoles, action of papain and ficin on, 375
—, sea urchin, pyruvate metabolism during cell division, 73
Electricity, *Nitella*, nature of action current, simple and complex action patterns, 47
Electrolytes, non-polar–polar organic, physiological effects, influence upon resting potential of frog muscle, 389
Electron microscope view of lyophilized aluminum laurate, 159
Enzyme inhibition, multiple, kinetics, 367
Enzymes and proteins, reaction with mustard gas, 185
Erythrocytes, human, potassium-sodium exchange accompanying prolytic loss of potassium from, 379
—, human, prolytic ion exchanges produced by methanol, ethanol, guaiacol, and resorcinol in, 479
—, human, prolytic loss of potassium from, 235
Escherichia coli, oxygen consumption associated with growth in, effect of sulfathiazole and *n*-propyl carbamate, 279
— *coli*, oxygen consumption and growth, rate, effects of sulfathiazole and propyl carbamate, 263
Ethanol, methanol, guaiacol, and resorcinol, prolytic ion exchanges produced in human red cells by, 479
Ethyldichlorarsine, mustard gas, lewisite, and phenyldichlorarsine, detection with trained dogs or rats, 475
Eye pigments of *Drosophila melanogaster*, fractionation, 41

FERMENTATION, adaptive, of galactose by yeast, metabolic intermediates in, 355
Ficin and papain, action on tadpoles and *Arbacia* eggs, 375
Fungus, *Chaetomium globosum*, saltants produced by short wave lengths of monochromatic ultraviolet irradiation compared with saltant production by wave lengths of visible and long ultraviolet monochromatic irradiation, 211

GALACTOSE, adaptive fermentation by yeast, metabolic intermediates, 355
Gas, mustard, lewisite, ethyldichlorarsine, and phenyldichlorarsine, detection with trained dogs or rats, 475
—, mustard, reaction of enzymes and proteins with, 185
—, mustard, solubility in water, in molar sodium chloride, and in solutions of detergents, 449
—, mustard, sulfonium salt, 457
Gels, protoplasmic, properties, contraction of chloroplasts in currents of water entering cell and expansion in outgoing currents, 229

Growth in *Escherichia coli*, in association with oxygen consumption, effect of sulfathiazole and *n*-propyl carbamate, 279
— and oxygen consumption in *Escherichia coli*, rate, effects of sulfathiazole and propyl carbamate, 263
Guaiacol, methanol, ethanol, and resorcinol, prolytic ion exchanges produced in human red cells by, 479

HAEMOPHILUS *influenzae*, porphyrin requirements, and functions of vinyl and propionic acid side chains of heme, 1
Heme, vinyl and propionic acid side chains of, and porphyrin requirements of *Haemophilus influenzae*, 1
Hemocyanin, molecular association produced by x-rays, seen in ultracentrifuge, 83
Hemolysins, bacterial, comparative kinetics of hemolysis induced by, 337
Hemolysis induced by bacterial and other hemolysins, comparative kinetics, 337
Hemolytic systems containing anionic detergents, 15
Hydrogen ion concentration and temperature, effect on reversible inactivation, and protamine purification of streptokinase, 465
Hydroxyethyl sulfonium ethylsulfide dichloride, bis-β-, bis-β-, 457

ION exchanges, prolytic, produced in human red cells by methanol, ethanol, guaiacol, and resorcinol, 479
Irradiation, visible and long ultraviolet monochromatic, saltant production by wave lengths of, comparison with saltants produced by short wave lengths, in fungus *Chaetomium globosum*, 211

KINETICS, comparative, of hemolysis induced by bacterial and other hemolysins, 337
— of multiple enzyme inhibition, 367

LEWISITE, mustard gas, ethyldichlorarsine, and phenyldichlorarsine, detection with trained dogs or rats, 475
Lights of different hues, dark adaptation of color anomalous measured with, 423

MAN, red cells, potassium-sodium exchange accompanying prolytic loss of potassium from, 379
—, red cells, prolytic ion exchanges produced by methanol, ethanol, guaiacol, and resorcinol, 479
—, red cells, prolytic loss of potassium from, 235
Metabolic intermediates in adaptive fermentation of galactose by yeast, 355
Metabolism, pyruvate, of sea urchin eggs during cell division, 73
Methanol, ethanol, guaiacol, and resorcinol, prolytic ion exchanges produced in human red cells by, 479
Microscope view, electron, of lyophilized aluminum laurate, 159
Molecular association of hemocyanin produced by x-rays, seen in ultracentrifuge, 83
Muscle, frog, resting potential, influence of non-polar–polar organic electrolytes, 389
Mustard gas, lewisite, ethyldichlorarsine, and phenyldichlorarsine, detection with trained dogs or rats, 475
— gas, reaction of enzymes and proteins with, 185
— gas, solubility in water, molar sodium chloride, and in solutions of detergents, 449
— gas, sulfonium salt, 457

Myosin and actomyosin, adenosine triphosphatase activity of, 401

NERVE, effect of environmental potassium and calcium concentrations on recovery of action potential and related functions, 493

Nitella, action current, simple and complex action patterns, 47

Nucleoprotamine of trout sperm, 101

Nucleoprotein, desoxyribose, complex, of cell nucleus, 117

Nucleus, cell, desoxyribose nucleoprotein complex of, 117

OXIDATIVE assimilation in relation to photosynthesis in *Chlorella*, 217

Oxygen consumption associated with growth in *Escherichia coli*, effect of sulfathiazole and *n*-propyl carbamate, 279

— consumption and growth in *Escherichia coli*, rate, effects of sulfathiazole and propyl carbamate, 263

PAPAIN and ficin, action on tadpoles and *Arbacia* eggs, 375

Pepsin, crystallization from alcohol, 177

— and trypsin, plastein from, 377

Phenyldichlorarsine, mustard gas, lewisite, and ethyldichlorarsine, detection with trained dogs or rats, 475

Photosynthesis in *Chlorella*, oxidative assimilation in relation to, 217

Physiological effects of non-polar–polar organic electrolytes, influence upon resting potential of frog muscle, 389

Pigments, eye, of *Drosophila melanogaster*, fractionation, 41

Plasminogen, activation by chloroform, 149

Plastein from pepsin and trypsin, 377

—, ultracentrifuge study, 399

Porphyrin requirements of *Haemophilus influenzae*, and functions of vinyl and propionic acid side chains of heme, 1

Potassium and calcium concentrations, environmental, effect on recovery of action potential and related functions of nerve, 493

—, prolytic loss from human red cells, 235

Potassium-sodium exchange accompanying prolytic loss of potassium from human red cells, 379

Propionic and vinyl acid side chains of heme, and porphyrin requirements of *Haemophilus influenzae*, 1

Propyl carbamate and sulfathiazole, effects on rate of oxygen consumption and growth in *Escherichia coli*, 263

Protamine, nucleo-, of trout sperm, 101

— purification of streptokinase and effect of hydrogen ion concentration and temperature on reversible inactivation, 465

Protein compound, crystalline, of trypsin, and soy bean trypsin inhibitor, isolation, 311

Proteins and enzymes, reaction with mustard gas, 185

Protoplasmic gels, properties, contraction of chloroplasts in currents of water entering cell and expansion in outgoing currents, 229

Pyruvate metabolism of sea urchin eggs during cell division, 73

RESORCINOL, methanol, ethanol, and guaiacol, prolytic ion exchanges produced in human red cells by, 479

Respiration of *Trypanosoma cruzi* in culture, 163

Roentgen rays producing molecular association of hemocyanin, seen in ultracentrifuge, 83

SALT, sulfonium, of mustard gas, 457
Saltant production by wave lengths of visible and long ultraviolet monochromatic irradiation, and comparison with saltants produced by short wave lengths of monochromatic ultraviolet irradiation in fungus *Chaetomium globosum*, 211
Sea urchin eggs, pyruvate metabolism during cell division, 73
Secretion of water, 439
Serum, effects on spermatozoa, 321
Soaps, aluminum, electron microscope view of lyophilized aluminum laurate, 159
Sodium chloride, molar, water, and solutions of detergents, solubility of mustard gas in, 449
Sodium-potassium exchange accompanying prolytic loss of potassium from human red cells, 379
Solubility of mustard gas in water, molar sodium chloride, and in solutions of detergents, 449
Soy bean trypsin inhibitor, crystalline, general properties, 291
— bean trypsin inhibitor, and crystalline protein compound of trypsin, isolation, 311
Sperm, trout, nucleoprotamine, 101
Spermatozoa, effects of serum, 321
Streptokinase, protamine purification and effect of hydrogen ion concentration and temperature on reversible inactivation, 465
Sulfathiazole and *n*-propyl carbamate, effect on oxygen consumption associated with growth in *Escherichia coli*, 279
— and propyl carbamate, effects on rate of oxygen consumption and growth in *Escherichia coli*, 263
Sulfide, bis(β-chloroethyl)-, reaction of enzymes and proteins with, 185
—, bis(β-chloroethyl)-, solubility in water, in molar sodium chloride, and in solutions of detergents, 449
Sulfonium compound, bis-β-[bis(β-hydroxyethyl) sulfonium] ethylsulfide dichloride, 457
— salt of mustard gas, 457

TADPOLES and *Arbacia* eggs, action of papain and ficin on, 375
Temperature and hydrogen ion concentration, effect on reversible inactivation, and protamine purification of streptokinase, 465
Trypanosoma cruzi respiration, in culture, 163
Trypsin inhibitor, crystalline soy bean, general properties, 291
— and pepsin, plastein from, 377
— and soy bean trypsin inhibitor, crystalline protein compound, isolation, 311

ULTRACENTRIFUGE, molecular association of hemocyanin produced by x-rays, seen in, 83
— study of plastein, 399
Ultraviolet monochromatic irradiation, visible and long, saltant production by wave lengths of, comparison with saltants produced by short wave lengths, in fungus *Chaetomium globosum*, 211

VINYL and propionic acid side chains of heme, and porphyrin requirements of *Haemophilus influenzae*, 1
Vitamins B synthesis by yeast, effects of limiting conditions, 61

WATER entering cell, contraction of chloroplasts in and expansion in outgoing currents, 229

WATER, molar sodium chloride, and solutions, of detergents, sol-
of mustard gas in, 449
— secretion, 439

X-RAYS. *See* Roentgen rays.

YEAST, adaptive fermentation of galactose by, metabolic intermediates, 355
—, synthesis of B vitamins by, effects of limiting conditions, 61